Date: Hser:

Wednesday, 12/5/2007 10:43:04 AM

Kim Johnston

**Process Sheet** 

Customer Job Number : CU-DAR001 Dart Helicopters Services

: 36151

**Estimate Number** 

P.O. Number

: 12412 : NA

: 12/5/2007 This Issue Prsht Rev.

: 36139

S.O. No. : NA

Type

: MACHINED PARTS

Part Number

**Drawing Name** 

**Drawing Number** 

Project Number **Drawing Revision** 

**Material Due Date**  : D312125

: D3121 REV E

: BFARING CAP

: N/A

: NA

: 12/12/2007

100 Um:

Each

Written By

First Issue

Previous Run

Checked & Approved By

Comment

New Issue 06-05-10 JLM : Est Rev: A

Est Rev:B ECN 1060 07-11-12 DD verified by:EC

**Additional Product** 

Job Number:



Seq. #:

Machine Or Operation:

Description: DELRIN ROUND BAR 1.25"

1.0 MDELRINR12500

Comment: Qty.:

0.0546 f(s)/Unit

Total: 5.4600 f(s)

Material: Ø1.25 Delrin Rod

(M-DELRIN-R1.2500)Identify as D3121-25

07/12/05

M104398

2.0

HARDINGE CNC LATHE SMALL



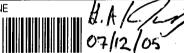
Comment: HARDINGE CNC LATHE SMALL

1-Turn D3121-25 Cap as per Folio FA387

2-Deburr

3.0 QC2 INSPECT PARTS AS THEY COME OFF MACHINE





Comment: INSPECT PARTS AS THEY COME OFF MACHINE

4.0

QC8



SECOND CHECK

Comment: SECOND CHECK

5.0

Location:

PACKAGING RESOURCE #1

Comment: PACKAGING RESOURCE #1

Identify and Stock

# **Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES								
DATE	STEP	1	PROCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector		
(6)		2								

Part No:	PAR #:	Fault Category:	NCR: Yes No	DQA:	Date: <u>910//</u>	4
			QA: N/C	Closed:	Date:	

NCR:			WORK ORDER NON-CONFORMANCE (NCR)								
		Description of NC		Corrective Action Section B							
DATE	STEP	Section A Initial Action Description Sign & Section C Chief Eng Control Chief Eng Chie	Verification Section C	Approval Chief Eng	Approval QC Inspector						
						-					

NOTE: Date & initial all entries

Date:

Wednesday, 12/5/2007 10:43:04 AM

User:

Kim Johnston

**Process Sheet** 

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BEARING CAP

Job Number: 36151

Part Number: D312125

Job Number:



Seq. #:

**Machine Or Operation:** 

Description:

6.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE



100

Job Completion



U SMIll

# **Dart Aerospace Ltd**

W/O:		WORK ORDER C	HANGES				
DATE	STEP	PROCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
Part No	) <b>:</b>	PAR #: Fault Category:	NCR: Yes	No <b>DQ</b>	<b>A</b> :	_ Date: _	

QA: N/C Closed: \_\_\_\_ Date: \_\_\_

NCR:		V	CE (NCR)			- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1		
-		Description of NC		Corrective Action Section B				
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Verification Section C	Approval Chief Eng	Approval QC Inspector
						•		
		· .						

NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order: 3615	51
Description: Cap	/ Part Number: D3121-2	5
( ) ( )	ν <sup>ο</sup> >	
Inspection Dwg: D3121 Rev;	Page 1 of	<u>' 1</u>

# FIRST ARTICLE INSPECTION CHECKLIST

X First Article Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.315	+/-0.010	1.315	1			
Ø1.000	+/-0.010	11.0036	V			
Ø0.838	+/-0.002	\$0.838	V			
R0.063	+/-0.010	B 0.063	<b>V</b>			
R0.010	+/-0.010	R 6.010	<b>V</b>			
0.230	+/-0.001	0.230	<b>/</b>			
Ø0.865	+/-0.001	Ø 0.865	$\checkmark$			
				,		
				·		
	***					
-		1				

Measured by:	B. A / //	Audited by:	and	Prototype Approval:	N/A
Date:	07/12/05	Date:	67/12/00	Date:	N/A

Rev	Date	Change	Revised by	Approved
Α	04.04.20	New Issue (P/O D3121-241)	KJ/RF LA	_1
В	06.06.09	Ø1.000 diameter was Ø1.024	KJ/JLM 🛠	
				/ /

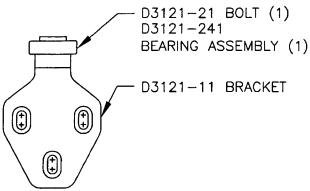




DESIG	4	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA				
CHEC	(ED_	APPROVED	DRAWING NO.	rev. e			
	#		D3121	SHEET 1 OF 10			
DATE			TITLE	SCALE			
07.1	1.07		BRACKET ASSEMBLY	1:2			
Α		02.04.15	NEW ISSUE				
В		03.01.16	ADD RIDGES; ADD MAT'L ADD -141/-143/-144/-	PROP; FIX P/N -145/-146			
С		04.02.17	ADD CLEARANCE; USE -2	41 BEARING			

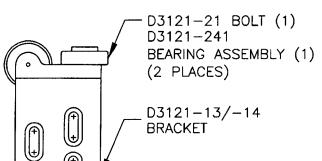


Α	02.04.15	NEW ISSUE
В	03.01.16	ADD RIDGES; ADD MAT'L PROP; FIX P/N ADD -141/-143/-144/-145/-146
С	04.02.17	ADD CLEARANCE; USE -241 BEARING
D	06.05.17	D3121-25 CAP WAS 1.024, NOW 1.000
Ε	07.11.07	ADD TOLERANCE TO 0.032 (DETAIL B)



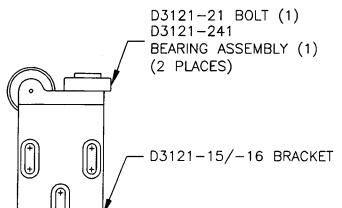
# D3121-041 BRACKET ASSEMBLY

(REPLACES PREMIER P/N B30-23000-33)



# D3121-043 (SHOWN) / D3121-044 (OPPOSITE) BRACKET ASSEMBLY

(REPLACES PREMIER P/N B30-23000-37/-38)



#### D3121-045 (SHOWN) / D3121-046 (OPPOSITE) SHOP COPY BRACKET ASSEMBLY

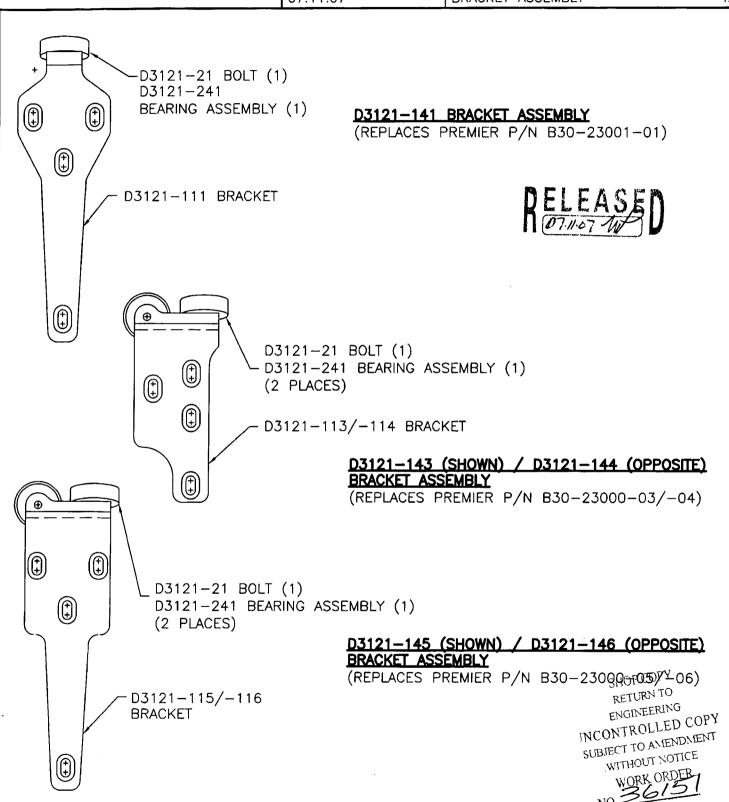
(REPLACES PREMIER P/N B30-23000-35/-36)

ENGINEERING UNCONTROLLED COPY SUBJECT TO AMENDMENT WITHOUT NOTICE

WORK ORDER



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4	-	D3121	SHEET 2 OF 10
DATE		TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:2

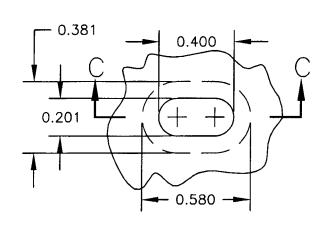


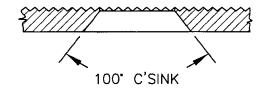
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DATE		TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:1

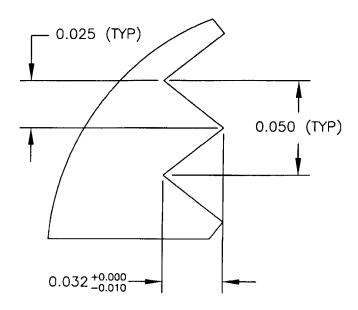






SECTION C-C

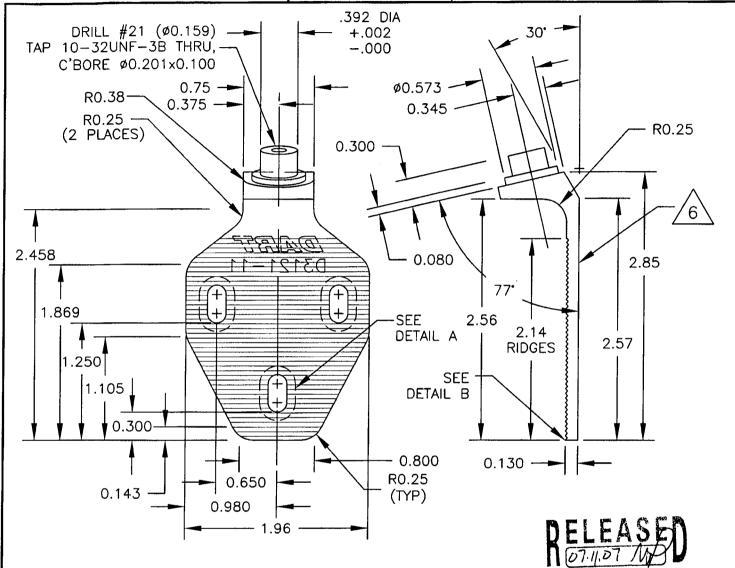
# **DETAIL B:** RIDGE DETAIL PARTIAL SECTION **SCALE 1:20**



SHOP COPY RETURN TO ENGINEERING UNCONTROLLED COPY SUBJECT TO AMENDMENT WITHOUT NOTICE



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4	<b>-#</b>	D3121	SHEET 4 OF 10
DATE		TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:1



#### D3121-11 BRACKET

1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B) MIN ULTIMATE TENSILE = 150 ksi

MIN YIELD TENSILE = 100 ksi

2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

3) ALL DIMENSIONS ARE IN INCHES

4) BREAK ALL SHARP EDGES 0.005 TO 0.015

5) ENGRAVE DART P/N & LOGO AS SHOWN

6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

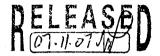
SHOP COPY RETURN TO ENGINEERIN'G UNCONTROLLED COPY SUBJECT TO AMENDMENT

WITHOUT NOTICE WORK ORDER

NO.=



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4	<b>₩</b>	D3121	SHEET 5 OF 10
DATE		TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:2



**(1)** 

<u> DAVRT</u>

D3121-13

1.220 - 1.800 *-*

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SEE

2.63

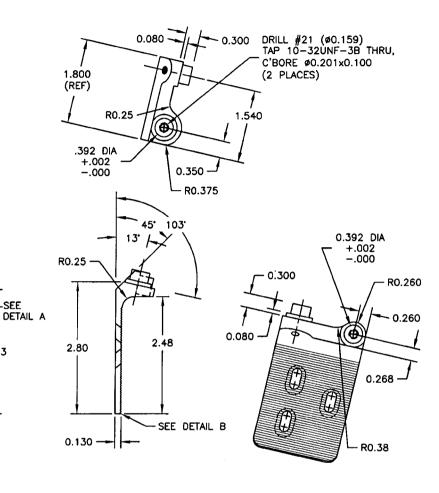
**∕**6\∙

0.400

1.280

0.960

0.330 -



# D3121-13 BRACKET (SHOWN) D3121-14 BRACKET (OPPOSITE)

1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B) MIN ULTIMATE TENSILE STRENGTH = 150 ksi MIN YIELD TENSILE STRENGTH = 100 ksi

2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N & LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

SHOP COPY RETURN TO ENGINEERING UNCONTROLLED COPY SUBJECT TO AMENDMENT WITHOUT NOTICE

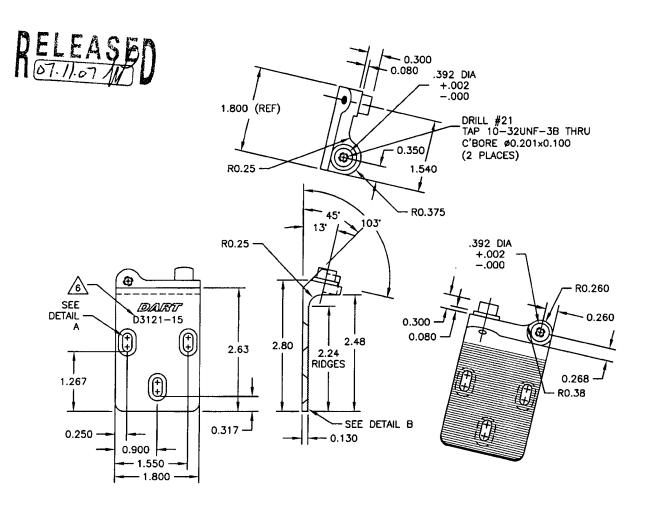
WORK ORDER NO.36

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#	1	D3121	SHEET 6 OF 10
DATE		TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:2



### D3121-15 BRACKET (SHOWN) D3121-16 BRACKET (OPPOSITE)

1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)

MIN ULTIMATE TENSILE = 150 ksi MIN YIELD TENSILE = 100 ksi

2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

3) ALL DIMENSIONS ARE IN INCHES

4) BREAK ALL SHARP EDGES 0.005 TO 0.015

5) ENGRAVE DART P/N AND LOGO AS SHOWN

6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

SHOP COPY RETURN TO ENGINEERING

UNCONTROLLED COP\ SUBJECT TO AMENDMENT WITHOUT NOTICE

WORK ORDER NO.36

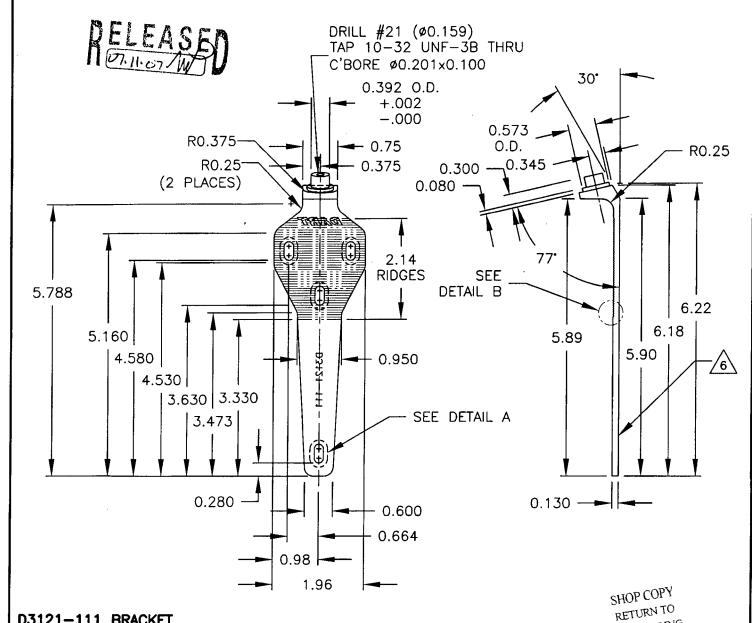
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#	-	D3121	SHEET 7 OF 10
DATE	1	TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:2

ENGINEERING

NO.=



#### **D3121-111 BRACKET**

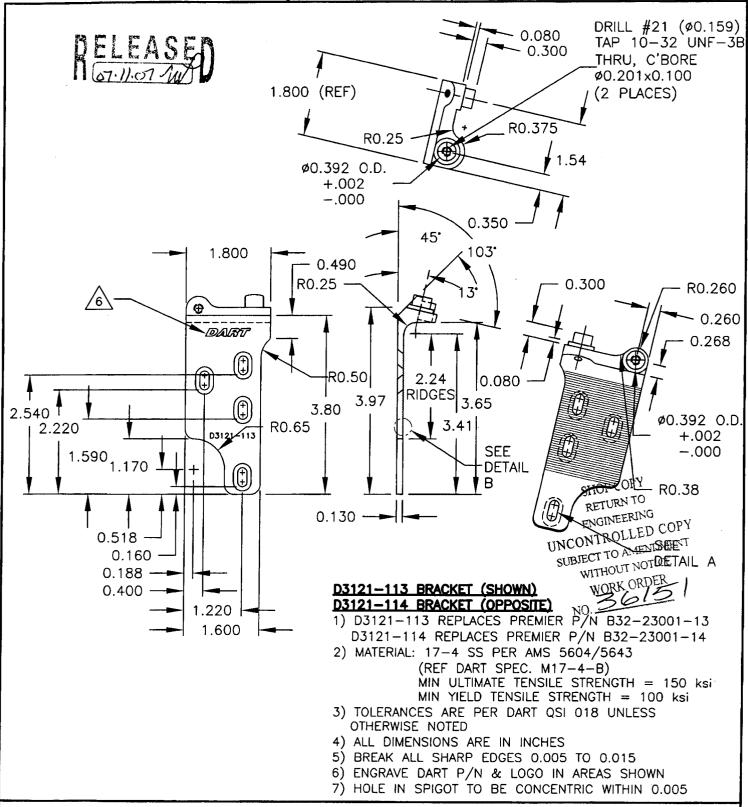
2) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B) UNCONTROLLED COPY
MIN ULTIMATE TENSILE - 150 151 SUBJECT TO AMENDMENT WITHOUT NOTICE MIN YIELD TENSILE = 100 ksi

3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHEWISE NOTED

- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
- 7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005



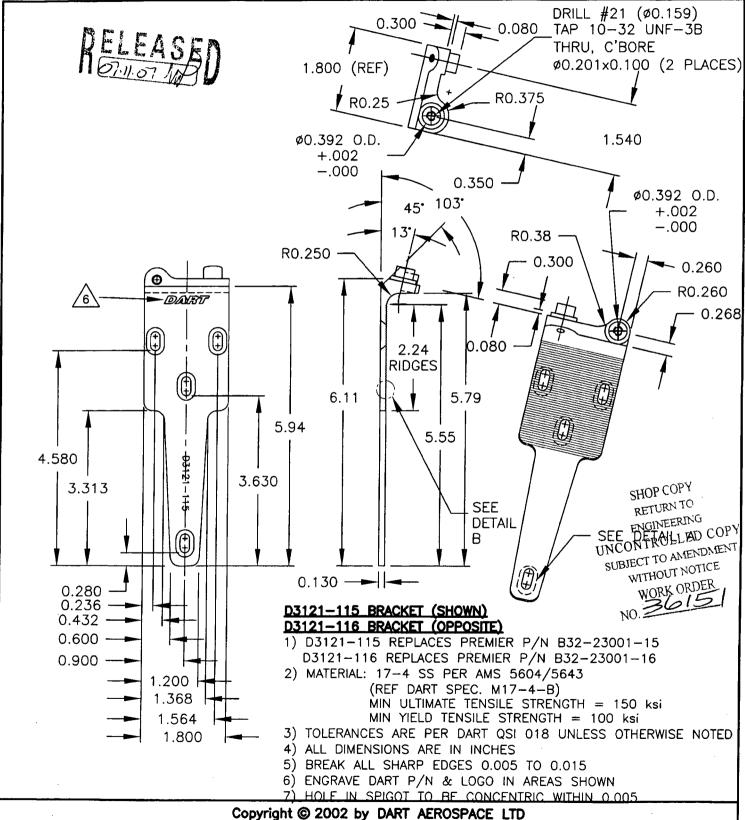
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4	<b>-</b>	D3121	SHEET 8 OF 10
DATE		TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:2



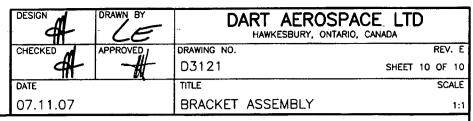
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DATE		TITLE	SCALE
07.11.07	•	BRACKET ASSEMBLY	1:2







D3121-21 BOLT (SCALE 1:1)

NONE

4) ALL DIMENSIONS ARE IN INCHES

OTHERWISE NOTED

1) MATERIAL: AISI 303 SS HEX, ANNEALED

3) TOLERANCES ARE PER DART QSI 018 UNLESS

5) BREAK ALL SHARP EDGES 0.005 TO 0.015

0.230±0.001

TAP 10-32

UNF-3A

- 0.050 TO 0.060

(REF DART SPEC. M303H0.500)

0.315

/D\ 1.000 0.838

R0.063

±0.002

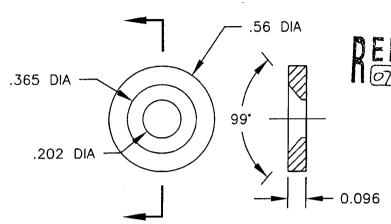
R0.010

0.865

±0.001

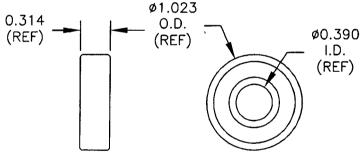
0.375

FINISH:



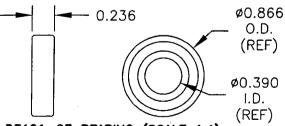
# D3121-17 WASHER (SCALE 2:1)

- 1) REPLACES PREMIER P/N B32-23001-17
- 2) MATERIAL: AISI 303 SS ROUND BAR, ANNEALED (REF DART SPEC. M303R)
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015



#### D3121-19 BEARING (SCALE 1:1)

- 1) POSSIBLE SUPPLIER: KING BEARING P/N 6000-2ZJ/EM FAFNIR P/N 9100KDD
- 2) ALL DIMENSIONS ARE IN INCHES



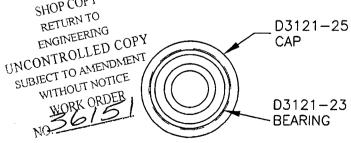
#### D3121-23 BEARING (SCALE 1:1)

1) POSSIBLE SUPPLIER: SKF P/N 61900-2Z OR KML P/N 6900-ZZ

2) ALL DIMENSIONS ARE IN INCHES

# D3121-25 CAP (SCALE 1:1) 1) MATERIAL: DELRIN ROD, Ø1.25

- 1) MATERIAL: DELRIN ROD, Ø1.25
  (REF DART SPEC. M-DELRIN-R1.250)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES SHOP COPY



D3121-241 BEARING ASSEBLY (SCALE 1:1)

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